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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,222	12/01/2003	Edward Keith Willis	038712/272022	2134

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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/725,222

Applicant(s)

WILLIS ET AL.

Examiner

Norca L. Torres-Velazquez

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 16 is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-10 and 12-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The fibers in the third nonwoven layer being of non circular cross section are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The third layer as claimed in claim 7 does not require the fibers to have a non-circular cross section as required by the disclosure on page 6, lines 21-30.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is also noted that the claim should read - -said spunbond fabrics have a basis weight... - - instead.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by YEH (US 6,509,285 B1).

YEH discloses a fabric with a difference in capillarity between two fibers composing the fabric. (Col. 1, lines 13-16) The reference teaches a two-layer structure in Fig. 1a and teaches embodiments such as that in Fig. 1c in which the first layer (16) is formed of multi-lobal fibers (at least trilobal), cross-sections with a second layer (17) also formed of multi-lobal fibers (that are at least trilobal), in cross-section. (Refer to Column 3, lines 56-67) The reference further

Art Unit: 1771

teaches that the indentation spaces 19a of the second fibers are smaller than the indentation spaces 18a of the first fibers. Therefore, the capillarity of the second fibers 17 is greater than that of the first fibers 16. This structure can be achieved by forming the second fibers 17 with smaller fibers (i.e. fiber with smaller diameters) and/or fibers with more indentations. (Col. 4, lines 9-19) The fabric can be manufactured as a fabric having a higher denier outer layer and a lower denier inner layer. (Col. 4, lines 28-29)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 6, 7, 8, 9 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over YEH as applied above, and further in view of BRAUN et al. (US 4,778,460) and LARGMAN et al. (US 5,057,368).

BRAUN et al. discloses a composite nonwoven fabric with a layer comprised of fibers having a first non-circular cross section and another layer comprised of fibers having a second non-circular cross section which is different from the first non-circular cross section, the first non-circular cross section of BRAUN et al is bilobal and the second non-circular cross section is trilobal. Therefore, BRAUN et al. also teaches a construction in which the capillarity of the second fibers is higher than that of the first fibers. BRAUN discloses a multilayer nonwoven fabric that comprises at least two layers of nonwoven web. (Abstract)

LARGMAN et al. relates to fibers having at least about three lobes which are useful in applications such as filtering, particularly trilobal and quadrilobal fibers. (Col. 1, lines 7-11 and Col. 4, lines 10-11) The reference teaches that such fibers exhibit high loft and reduced tendency to pack. The fibers are also useful as fluid filter medium and exhibit high efficiency and high capacity for removal of entrained solid particles from fluid streams. (Col. 3, lines 44-48) It is noted that Largman et al. teaches fibers with a 3 denier. (Examples)

Since the references are directed to nonwoven webs made from non-circular cross section fibers, the purposes disclosed by LARGMAN et al. and BRAUN et al. would have been recognized in the pertinent art of YEH.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fabric of YEH with fibers with a 3 denier with the motivation of providing a nonwoven with fibers that exhibit high loft and reduced tendency to pack that are useful as fluid filter medium and also exhibit high efficiency and high capacity for removal of entrained solid particles from fluid streams as disclosed by LARGMAN. (Col. 3, lines 44-48). It would have also been obvious to one of ordinary skill in the art to have a three-layer nonwoven composite of the invention of BRAUN et al. motivated by the desire of increasing the tensile strength or tear resistance of the material. It is noted that BRAUN et al. discloses that these properties are important area in the improvement of the web. (Col. 1, lines 29-31)

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over YEH, BRAUN et al. and LARGMAN et al. and further in view of ORTEGA et al. (WO 00/15891)

ORTEGA et al. is also directed to nonwoven webs made from non-circular cross section fibers and discloses spunbonded nonwoven fabrics with multilobal filaments with deniers form about 5 to 12 dpf, and a weight between 0.2-7 ounces per square yard and with filaments with at least two different denier sizes (Page 4, lines 3-8, 16, 21-23, 27-28) The reference discloses that fabrics with trilobal filaments are permeable and can be used alone in filtration applications or as a coarse layer in a composite filter. (Page 5, lines 24-25)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the webs and provide with them a basis weight between about 0.2 and about 7 ounces per square yard with the motivation of producing a nonwoven fabric with high air permeability and open space as disclosed by ORTEGA et al. (Page 4, lines 21-23)

Allowable Subject Matter

10. Claims 11 and 16 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fail to teach a nonwoven fabric of the present invention in which the filaments of the first and second layers have a trilobal cross section and an intermediate layer of filaments with a quad-lobal cross section.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

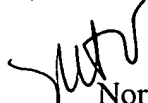
Art Unit: 1771

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

August 17, 2005